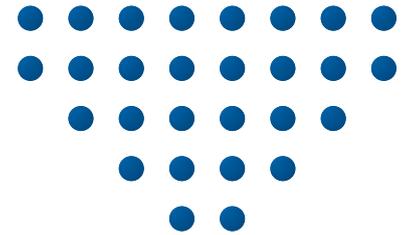


Transducer

# ESF-35



HVAC CONTROLS AND POWER

## Natural and Mechanical Airflow

The ESF-35 is a series of electronic airflow transducers designed for measuring the air velocity of both natural and mechanical ventilation systems. It replaces mechanical transducers and pressure conversion.

The ESF-35 series is engineered to make airflow measurement easy and cost efficient, yet more accurate, than the traditional solutions.

With integrated compensation for changes in air temperature, the ESF-35 will provide an accurate measurement under all circumstances.

The ESF-35 has been developed to give our customers an advantageous combination of high quality, accurate control and low life cycle costs.

### ESF-35 FUNCTIONS

#### Designed for Natural Ventilation

The ESF-35 has been designed, not only for the traditional ventilation systems, but also for accurate measurements of the very low airflow in natural ventilation systems.

#### Linear Airflow Read-out

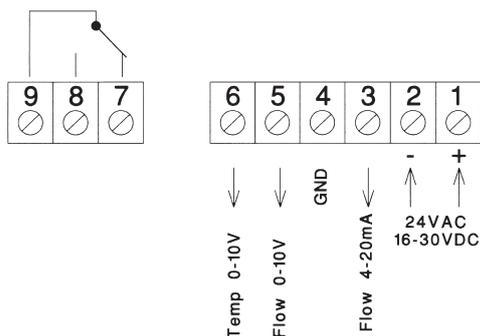
With the state-of-art electronics and the advanced algorithms, the ESF-35 is able to provide an output signal, which is 100% proportional to the airspeed across the sensor.

#### Telescopic Sensor

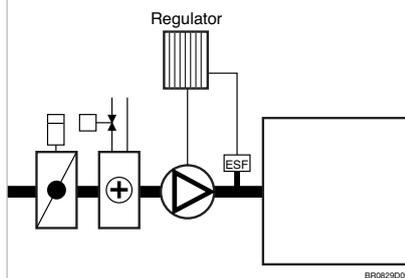
To allow for a correct sensor placement in the airflow, the sensor insertion depth into the ductwork can be adjusted from 50 to 185 mm.

#### Dual Read-out

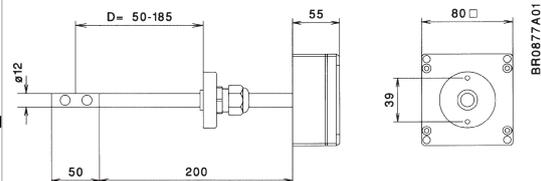
The ESF-35 is not only an airflow transducer. Temperature can also be read-out as a 0-10VDC signal, saving the installation of a separate temperature transducer.



Wiring diagram



Application example



Dimensions

## ESF-35 FUNCTIONS

### Non-corrosive Material

To make the ESF-35 as durable as possible, the entire transducer is made from non-corrosive materials.

### Built-in Alarm Relay

The ESF-35-1 has a built-in relay with an adjustable setpoint, making it suitable as a replacement for flow protection for an electrical heating battery, while it can maintain its normal functionality towards the controller.

## TECHNICAL DATA

SUPPLY VOLTAGE	OUTPUT SIGNAL	OUTPUT RELAY (ESF-35-1)
24V AC $\pm 15\%$ 50/60Hz 16-30V DC	0-10V DC, max. 5 mA 4-20 mA, RL<500 $\Omega$	Relays SPCO, 6A 250V
FLOW RANGES	TEMPERATURE RANGE	
ESF-35-1: ESF-35-2: ESF-35-4:	0/+50°C	
	0,5-8, 0,5-16 m/sec. 0,5-8, 0,5-16 m/sec. 0,2-1, 0,2 2 m/sec.	
ACCURACY	AIR TEMPERATURE	
ESF-35-1: ESF-35-2: ESF-35-4:	-10/+60°C	
	$\pm 0,4$ m/sec. $\pm 0,4$ m/sec. $\pm 0,2$ m/sec.	
AMBIENT TEMPERATURE	POWER CONSUMPTION	HOUSING
-20/+50°C	max. 2VA	IP54
SIZE (W/D/H)	WEIGHT	
80 x 55 x 80 mm	225 g	

## CE MARKING

The ESF-35 meets the requirements of the following standards:

EMC DIRECTIVE	LOW VOLTAGE DIRECTIVE
EN 61000-6-2 EN 61000-6-3	EN 60730-1

## MOUNTING

### Mounting of the Transducer

ESF-35 can be mounted in air ducts with a diameter or channel width of 100-370 mm. To avoid duct cavitations which will adversely effect the sensor, the ESF-35 should be placed at least 6 duct diameters in front of an obstruction or bend in the ducting, and not closer than 3 duct diameters behind an obstruction.

### Mounting of the Control Cable

The control cable from the external controller can be up to 50 m. The control signal cable must not be placed in parallel with any mains carrying cables, as voltage signals may occur which could interrupt the function of the controller.

It is not always necessary to use a screened cable to the controller, however the immunity of the controller to noise will be improved. The screen is connected with a bracket to the back plate of a metal enclosure. The enclosure must be grounded to a ground potential equal to that of the controller.

## PRODUCT PROGRAM

TYPE	PRODUCT
ESF-35-1	Airflow transducer for mechanical ventilation with built-in relay function
ESF-35-2	Airflow transducer for mechanical ventilation
ESF-35-4	Airflow transducer for natural ventilation